

3. The method according to claim 2, wherein the block error rate value is a function of a SIR variable for the retransmission environment and further including the step of for each link adaptation mode, determining a corresponding range of SIR values for which a corresponding throughput function has a maximum value among the throughput functions corresponding to each of the at least one link adaptation modes.

4 The method according to claim 1, further including the step of if the signal quality value is less than a no-transmission threshold value, ceasing transmission until the signal quality value exceeds the no-transmission threshold value.

5. The method according to claim 1, wherein the signal quality value is one of a signal to interference ratio (SIR) and a block error rate (BLER).

6. The method according to claim 1, wherein each of the at least one link adaptation modes is a link adaptation mode supported by the Enhanced Data Rates for GSM Evolution (EDGE) specification.

7. The method according to claim 1, wherein the retransmission environment is modeled using a wireless transmission model that includes at least one retransmission.

Sub B17
8. (Amended) A method for performing wireless transmissions comprising the steps of:

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- (a) measuring a signal quality value at a receiver;
 - (b) determining whether the signal quality value is less than a no-transmission threshold, which threshold corresponds to lowest signal quality value that equals a diminution in signal quality due to retransmission plus signal quality assuming no retransmissions;
 - (c) if the signal quality value is less than the no-transmission threshold, ceasing transmission; and
 - (d) if the signal quality value exceeds the no-transmission threshold, performing link adaptation.

9. The method according to claim 8, wherein the no-transmission threshold is a SIR value below which a wireless transmission system is unstable.
10. The method according to claim 8, wherein the no-transmission threshold is a SIR value below which substantially zero throughput will occur at a link receiver.
11. The method according to claim 8, wherein the signal quality value is one of a SIR and a BLER
12. The method according to claim 8, wherein the step of performing link adaptation further includes the steps of:
 - (a) selecting a best link adaptation mode by comparing the signal quality value to a threshold value corresponding to each of at least one link adaptation modes; and
 - (b) adjusting at least one of a modulation scheme and a coding scheme based upon the best link adaptation mode.
13. A method for calculating a threshold value for each of at least one link adaptation modes in a retransmission environment comprising the steps of
 - (a) for each of the at least one link adaptation modes, calculating a performance criteria function using at least one parameter;
 - (b) for each of the at least one link adaptation modes, determining a range of signal quality values for which the performance criteria function is maximized.
14. The method according to claim 13, wherein the performance criteria function is a throughput function that is dependent upon at least one of a radio interference rate value and a block error rate value.
15. The method according to claim 13, wherein the signal quality value is one of a SIR

and a BLER.

Sub B17 16. (Amended) A wireless communication system comprising:

at least one wireless receiver, wherein each of the at least one wireless receiver further includes:

- a transceiver;
- an antenna;

A2 at least one wireless transmitter, wherein each of the at least one wireless transmitter further includes:

- a transceiver;
- an antenna;

a processor, wherein the processor is adapted to:

- (a) determine whether a signal quality value for a current receiver is less than a no-transmission threshold, which threshold corresponds to lowest signal quality value that equals a diminution in signal quality due to retransmission plus signal quality assuming no retransmissions;
- (b) if the signal quality value is less than the no-transmission threshold, cease transmission to the current receiver; and
- (c) if the signal quality value exceeds the no-transmission threshold, perform link adaptation.

17. The wireless communications system according to claim 16, wherein the processor is further adapted to:

- (a) select a best link adaptation mode by comparing the signal quality value to a threshold value corresponding to each of at least one link adaptation modes; and
- (b) adjust at least one of a modulation scheme and a coding scheme based upon the best link adaptation mode.

Please add the following claims: --

A3 Sub B17 18. A method for performing wireless link adaptation in a retransmission environment

comprising the steps of:

- (b) measuring a signal quality value at a receiver;
- (c) selecting a chosen mode by comparing said signal quality value to threshold values corresponding to different transmission modes, which threshold values result from a computation that accounts for increases in signal to interference ratio (SIR) resulting from retransmission; and
- (d) effecting said adaptation by causing transmission at said chosen mode.

19. A wireless communication system comprising:

at least one wireless receiver, wherein each of the at least one wireless receiver further includes:

- a transceiver;
- an antenna;

at least one wireless transmitter, wherein each of the at least one wireless transmitter further includes:

- a transceiver;
- an antenna;
- a processor, wherein the processor is adapted to:
 - (a) determine whether a signal quality value for a current receiver is less than a no-transmission threshold;
 - (b) if the signal quality value is less than the no-transmission threshold, cease transmission to the current receiver; and
 - (c) if the signal quality value exceeds the no-transmission threshold, perform link adaptation in accordance with an algorithm that takes into account diminution in signal to interference ratio due to retransmissions.